



148

SEQUENCE LISTING

<110> Rothbard, Jonathan B.
Wender, Paul A.
McGrane, P. Leo
Sista, Lalitha V.S.
Kirschberg, Thorsten A.
CellGate, Inc.

<120> Compositions and Methods for Enhancing
Drug Delivery Across and Into Ocular Tissues

<130> 019801-000240US

<140> US 10/083,960
<141> 2002-02-25

<150> US 60/150,510
<151> 1999-08-24

<150> US 09/648,400
<151> 2000-08-24

<150> US 09/792,480
<151> 2001-02-23

<160> 86

<170> FastSEQ for Windows Version 3.0

<210> 1
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> R5 Arg homopolymer

<400> 1
Arg Arg Arg Arg Arg
1 5

<210> 2
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> R6 Arg homopolymer

<400> 2
Arg Arg Arg Arg Arg
1 5

<210> 3
<211> 7
<212> PRT
<213> Artificial Sequence

```

    <220>
    <223> R7 Arg homopolymer, L-Arg heptamer

    <400> 3
Arg Arg Arg Arg Arg Arg Arg
1           5

    <210> 4
    <211> 8
    <212> PRT
    <213> Artificial Sequence

    <220>
    <223> R8 Arg homopolymer

    <400> 4
Arg Arg Arg Arg Arg Arg Arg Arg
1           5

    <210> 5
    <211> 9
    <212> PRT
    <213> Artificial Sequence

    <220>
    <223> R9 Arg homopolymer

    <400> 5
Arg Arg Arg Arg Arg Arg Arg Arg
1           5

    <210> 6
    <211> 7
    <212> PRT
    <213> Artificial Sequence

    <220>
    <223> L-Arg heptamer after release of cyclosporine by
        cleavage of the pH sensitive linker group

    <221> MOD_RES
    <222> (1)...(1)
    <223> Xaa =
        2-[4-benzyl-2,5-diketopiperazinyl]-acetyl-arginine

    <400> 6
Xaa Arg Arg Arg Arg Arg Arg
1           5

    <210> 7
    <211> 10
    <212> PRT
    <213> Artificial Sequence

    <220>
    <223> unlabeled peptide

    <221> MOD_RES
    <222> (10)...(10)
    <223> Xaa = cysteinamide

```

<400> 7
 Arg Arg Arg Arg Arg Arg Arg Gly Gly Xaa
 1 5 10

<210> 8
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> analog of Tat-49-57

<221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = fluorescein conjugated aminohexanoic acid
 (Fl-ahx)

<400> 8
 Xaa Arg Lys Lys Arg Arg Gln Arg Arg Arg
 1 5 10

<210> 9
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tat-49-56 truncated analog of Tat-49-57

<221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = fluorescein conjugated aminohexanoic acid
 (Fl-ahx)

<400> 9
 Xaa Arg Lys Lys Arg Arg Gln Arg Arg
 1 5

<210> 10
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Tat-49-55 truncated analog of Tat-49-57

<221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = fluorescein conjugated aminohexanoic acid
 (Fl-ahx)

<400> 10
 Xaa Arg Lys Lys Arg Arg Gln Arg
 1 5

<210> 11
 <211> 9
 <212> PRT
 <213> Artificial Sequence

```

<220>
<223> Tat-50-57 truncated analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 11
Xaa Lys Lys Arg Arg Gln Arg Arg Arg
 1               5

<210> 12
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Tat-51-57 truncated analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 12
Xaa Lys Arg Arg Gln Arg Arg Arg
 1               5

<210> 13
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-49 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 13
Xaa Ala Lys Lys Arg Arg Gln Arg Arg Arg
 1               5               10

<210> 14
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-50 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

```

<400> 14
Xaa Arg Ala Lys Arg Arg Gln Arg Arg Arg
1 5 10

<210> 15
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-51 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
(Fl-ahx)

<400> 15
Xaa Arg Lys Ala Arg Arg Gln Arg Arg Arg
1 5 10

<210> 16
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-52 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
(Fl-ahx)

<400> 16
Xaa Arg Lys Lys Ala Arg Gln Arg Arg Arg
1 5 10

<210> 17
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-53 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
(Fl-ahx)

<400> 17
Xaa Arg Lys Lys Arg Ala Gln Arg Arg Arg
1 5 10

<210> 18
<211> 10
<212> PRT
<213> Artificial Sequence

```

<220>
<223> A-54 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 18
Xaa Arg Lys Lys Arg Arg Ala Arg Arg Arg
 1           5           10

<210> 19
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-55 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 19
Xaa Arg Lys Lys Arg Arg Gln Ala Arg Arg
 1           5           10

<210> 20
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-56 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 20
Xaa Arg Lys Lys Arg Arg Gln Arg Ala Arg
 1           5           10

<210> 21
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> A-57 alanine-substituted analog of Tat-49-57

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

```

```

      <400> 21
Xaa Arg Lys Lys Arg Arg Gln Arg Arg Ala
 1              5              10

      <210> 22
      <211> 10
      <212> PRT
      <213> Artificial Sequence

      <220>
      <223> Tat-57-49 retro-isomer of Tat-49-57

      <221> MOD_RES
      <222> (1)...(1)
      <223> Xaa = fluorescein conjugated aminohexanoic acid
              (Fl-ahx)

      <400> 22
Xaa Arg Arg Arg Gln Arg Arg Lys Lys Arg
 1              5              10

      <210> 23
      <211> 6
      <212> PRT
      <213> Artificial Sequence

      <220>
      <223> R5 Arg oligomer

      <221> MOD_RES
      <222> (1)...(1)
      <223> Xaa = fluorescein conjugated aminohexanoic acid
              (Fl-ahx)

      <400> 23
Xaa Arg Arg Arg Arg Arg
 1              5

      <210> 24
      <211> 7
      <212> PRT
      <213> Artificial Sequence

      <220>
      <223> R6 Arg oligomer

      <221> MOD_RES
      <222> (1)...(1)
      <223> Xaa = fluorescein conjugated aminohexanoic acid
              (Fl-ahx)

      <400> 24
Xaa Arg Arg Arg Arg Arg
 1              5

      <210> 25
      <211> 8
      <212> PRT
      <213> Artificial Sequence

```

```

<220>
<223> R7 Arg oligomer

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 25
Xaa Arg Arg Arg Arg Arg Arg Arg
 1           5

<210> 26
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> R8 Arg oligomer

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 26
Xaa Arg Arg Arg Arg Arg Arg Arg
 1           5

<210> 27
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> R9 Arg oligomer

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 27
Xaa Arg Arg Arg Arg Arg Arg Arg Arg
 1           5           10

<210> 28
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> HIV-1 Tat protein basic region

<400> 28
Arg Lys Lys Arg Arg Gln Arg Arg Arg
 1           5

```



```

<210> 29
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antennapedia homeodomain region residues 43-58

<400> 29
Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
 1             5             10             15

<210> 30
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Antennapedia homeodomain region residues 43-58

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein conjugated aminohexanoic acid
      (Fl-ahx)

<400> 30
Xaa Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
 1             5             10             15

<210> 31
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety
      DTPA-aca-R7-CO2H

<221> MOD_RES
<222> (1)...(1)
<223> amino acaproic acid (aca) linked to
      diethylenetriaminepentaacetic acid (DTPA)

<400> 31
Xaa Arg Arg Arg Arg Arg Arg Arg
 1             5

<210> 32
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety
      NH-2-R-7CCONH-2.8TFA

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = cysteinamidine

```

<400> 32
 Arg Arg Arg Arg Arg Arg Xaa
 1 5

<210> 33
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (2)...(2)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (5)...(5)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<400> 33
 Arg Xaa Arg Arg Xaa Arg Arg
 1 5

<210> 34
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (2)...(2)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (5)...(5)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (8)...(8)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<400> 34
 Arg Xaa Arg Arg Xaa Arg Arg Xaa Arg Arg
 1 5 10

<210> 35
 <211> 13
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

```

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(5)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(11)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 35
Arg Xaa Arg Arg Xaa Arg Arg Xaa Arg Arg
1      5      10

<210> 36
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(5)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(11)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(14)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 36
Arg Xaa Arg Arg Xaa Arg Arg Xaa Arg Xaa Arg Arg Xaa Arg Arg
1      5      10      15

```

```

<210> 37
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(5)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly or epsilon-amino caproic acid

<400> 37
Arg Xaa Arg Arg Xaa Arg Arg
1          5          10

<210> 38
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 38
Arg Xaa Arg Xaa Arg Xaa Arg
1          5

<210> 39
<211> 11
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<400> 39
Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg
 1          5          10

<210> 40
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

```

```

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (12)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 40
Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg
1      5      10

<210> 41
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (12)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(14)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 41
Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg
1      5      10      15

```

```

<210> 42
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (12)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(14)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (16)...(16)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 42
Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa
 1          5          10          15
Arg

```

```

<210> 43
<211> 19
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> delivery enhancing transporter moiety

```

```

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (12)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(14)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (16)...(16)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(18)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 43
Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa
 1          5          10          15
Arg Xaa Arg

<210> 44
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

```



```

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (12)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(14)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (16)...(16)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(18)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (20)...(20)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 44
Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa
 1          5          10          15
Arg Xaa Arg Xaa Arg
 20

<210> 45
<211> 13
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(2)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (4)...(4)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(6)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (12)...(12)
<223> Xaa = Gly or epsilon-amino caproic acid

<400> 45
Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg Xaa Arg
 1          5          10

<210> 46
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(3)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(9)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

```

<400> 46
 Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 1 5 10

<210> 47
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (2)...(3)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (5)...(6)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (8)...(9)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (11)...(12)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (14)...(15)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<400> 47
 Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 1 5 10 15

<210> 48
 <211> 19
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (2)...(3)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (5)...(6)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

```

<221> MOD_RES
<222> (8)...(9)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(15)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (17)...(18)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 48
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 1          5          10          15
Xaa Xaa Arg

<210> 49
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(3)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(9)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(15)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

```

```

<221> MOD_RES
<222> (17)...(18)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (20)...(21)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 49
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 1          5          10          15
Xaa Xaa Arg Xaa Xaa Arg
 20

<210> 50
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(3)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(9)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(15)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (17)...(18)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (20)...(21)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

```

```

<221> MOD_RES
<222> (23)...(24)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<400> 50
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 1           5           10           15
Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
      20           25

<210> 51
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(3)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(9)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(15)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (17)...(18)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (20)...(21)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (23)...(24)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

```

```

<221> MOD_RES
<222> (26)...(27)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<400> 51
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 1           5           10           15
Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
      20           25

<210> 52
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(3)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(6)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(9)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(12)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(15)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (17)...(18)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (20)...(21)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (23)...(24)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

```

```

<221> MOD_RES
<222> (26)...(27)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (29)...(30)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<400> 52
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
1      5      10      15
Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
      20      25      30

<210> 53
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(3)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (5)...(6)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (8)...(9)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (11)...(12)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(15)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (17)...(18)
<223> Xaa = Gly or epsilon-amino caproic acid

<400> 53
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
1      5      10      15
Xaa Xaa Arg

<210> 54
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

```


<221> MOD_RES
 <222> (2)...(4)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (6)...(8)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (10)...(12)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (14)...(16)
 <223> Xaa = Gly or epsilon-amino caproic acid

<400> 54
 Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 1 5 10 15
 Arg

<210> 55
 <211> 21
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (2)...(4)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (6)...(8)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (10)...(12)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (14)...(16)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (18)...(20)
 <223> Xaa = Gly or epsilon-amino caproic acid

<400> 55
 Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 1 5 10 15
 Arg Xaa Xaa Xaa Arg
 20

<210> 56
 <211> 25
 <212> PRT
 <213> Artificial Sequence

```

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(4)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(8)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(12)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(16)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(20)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (22)...(24)
<223> Xaa = Gly or epsilon-amino caproic acid

<400> 56
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 1           5           10           15
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg
 20           25

<210> 57
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(4)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(8)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(12)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(16)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(20)
<223> Xaa = Gly or epsilon-amino caproic acid

```

```

<221> MOD_RES
<222> (22)...(24)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (26)...(28)
<223> Xaa = Gly or epsilon-amino caproic acid

<400> 57
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 1          5          10          15
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg
 20          25

<210> 58
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (2)...(4)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(8)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(12)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(16)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(20)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (22)...(24)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (26)...(28)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (30)...(32)
<223> Xaa = Gly or epsilon-amino caproic acid

<400> 58
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 1          5          10          15
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 20          25          30
Arg

```

<210> 59
 <211> 37
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (2)...(4)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (6)...(8)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (10)...(12)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (14)...(16)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (18)...(20)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (22)...(24)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (26)...(28)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (30)...(32)
 <223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
 <222> (34)...(36)
 <223> Xaa = Gly or epsilon-amino caproic acid

<400> 59
 Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 1 5 10 15
 Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 20 25 30
 Arg Xaa Xaa Xaa Arg
 35

<210> 60
 <211> 41
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

```

<221> MOD_RES
<222> (2)...(4)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (6)...(8)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (10)...(12)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (14)...(16)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(20)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (22)...(24)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (26)...(28)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (30)...(32)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (34)...(36)
<223> Xaa = Gly or epsilon-amino caproic acid

<221> MOD_RES
<222> (38)...(40)
<223> Xaa = Gly or epsilon-amino caproic acid

<400> 60
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
 1          5          10          15
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa
          20          25          30
Arg Xaa Xaa Xaa Arg Xaa Xaa Xaa Arg
          35          40

<210> 61
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<400> 61
Arg Gly Gly Gly Arg Gly Gly Gly Arg Gly Gly Gly
 1          5          10          15
Arg Gly Gly Gly Arg Gly Gly Gly Arg
          20          25

```

```

<210> 62
<211> 33
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (1)...(10)
<223> Xaa = any natural or non-natural amino acid, Xaa
      at positions 1-10 may be present or absent

<221> MOD_RES
<222> (12)...(13)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (15)...(16)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(19)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (21)...(22)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (24)...(33)
<223> Xaa = any natural or non-natural amino acid, Xaa
      at positions 24-33 may be present or absent

<400> 62
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 1          5          10          15
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 20          25          30
Xaa

<210> 63
<211> 36
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (1)...(10)
<223> Xaa = any natural or non-natural amino acid, Xaa
      at positions 1-10 may be present or absent

```

<221> MOD_RES
 <222> (12)...(13)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (15)...(16)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (18)...(19)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (21)...(22)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (24)...(25)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (27)...(36)
 <223> Xaa = any natural or non-natural amino acid, Xaa
 at positions 27-36 may be present or absent

<400> 63
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 1 5 10 15
 Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Xaa Xaa Xaa
 20 25 30
 Xaa Xaa Xaa Xaa
 35

<210> 64
 <211> 39
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (1)...(10)
 <223> Xaa = any natural or non-natural amino acid, Xaa
 at positions 1-10 may be present or absent

<221> MOD_RES
 <222> (12)...(13)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (15)...(16)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

```

<221> MOD_RES
<222> (18)...(19)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (21)...(22)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (24)...(25)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (27)...(28)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (30)...(39)
<223> Xaa = any natural or non-natural amino acid, Xaa
      at positions 30-39 may be present or absent

<400> 64
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 1          5          10          15
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 20          25          30
Xaa Xaa Xaa Xaa Xaa Xaa
 35

<210> 65
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (1)...(10)
<223> Xaa = any natural or non-natural amino acid, Xaa
      at positions 1-10 may be present or absent

<221> MOD_RES
<222> (12)...(13)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (15)...(16)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(19)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

```



```

<221> MOD_RES
<222> (21)...(22)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (24)...(25)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (27)...(28)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (30)...(31)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (33)...(42)
<223> Xaa = any natural or non-natural amino acid, Xaa
        at positions 33-42 may be present or absent

<400> 65
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 1          5          10          15
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 20          25          30
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35          40

<210> 66
<211> 45
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (1)...(10)
<223> Xaa = any natural or non-natural amino acid, Xaa
        at positions 1-10 may be present or absent

<221> MOD_RES
<222> (12)...(13)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (15)...(16)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

<221> MOD_RES
<222> (18)...(19)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
        or epsilon-amino caproic acid

```

<221> MOD_RES
 <222> (21)...(22)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (24)...(25)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (27)...(28)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (30)...(31)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (33)...(34)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (36)...(45)
 <223> Xaa = any natural or non-natural amino acid, Xaa
 at positions 36-45 may be present or absent

<400> 66
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 1 5 10 15
 Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 20 25 30
 Xaa Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35 40 45

<210> 67
 <211> 48
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (1)...(10)
 <223> Xaa = any natural or non-natural amino acid, Xaa
 at positions 1-10 may be present or absent

<221> MOD_RES
 <222> (12)...(13)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (15)...(16)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

```

<221> MOD_RES
<222> (18)...(19)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (21)...(22)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (24)...(25)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (27)...(28)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (30)...(31)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (33)...(34)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (36)...(37)
<223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
      or epsilon-amino caproic acid

<221> MOD_RES
<222> (39)...(48)
<223> Xaa = any natural or non-natural amino acid, Xaa
      at positions 39-48 may be present or absent

<400> 67
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 1          5          10          15
Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
          20          25          30
Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
          35          40          45

<210> 68
<211> 51
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety

<221> MOD_RES
<222> (1)...(10)
<223> Xaa = any natural or non-natural amino acid, Xaa
      at positions 1-10 may be present or absent

```

<221> MOD_RES
 <222> (12)...(13)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (15)...(16)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (18)...(19)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (21)...(22)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (24)...(25)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (27)...(28)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (30)...(31)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (33)...(34)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (36)...(37)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (39)...(40)
 <223> Xaa = Gly, beta-alanine, gamma-amino butyric acid
 or epsilon-amino caproic acid

<221> MOD_RES
 <222> (42)...(51)
 <223> Xaa = any natural or non-natural amino acid, Xaa
 at positions 42-51 may be present or absent

<400> 68
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa
 1 5 10 15
 Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg
 20 25 30

Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35 40 45
 Xaa Xaa Xaa
 50

<210> 69
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety

<221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = N-acetyl cysteine

<221> MOD_RES
 <222> (2)...(2)
 <223> Xaa = aminocaproic acid

<221> MOD_RES
 <222> (10)...(10)
 <223> Xaa = argininamide

 <400> 69
 Xaa Xaa Arg Arg Arg Arg Arg Arg Arg Xaa
 1 5 10

<210> 70
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = copper-diethylenetriaminepentaacetic acid
 complex (Cu-DTPA) linked to aminocaproic acid
 (aca)

<221> MOD_RES
 <222> (8)...(8)
 <223> Xaa = Arg bound to peptide synthesizer solid-phase
 resin

 <400> 70
 Xaa Arg Arg Arg Arg Arg Arg Arg Xaa
 1 5

<210> 71
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> delivery enhancing transporter moiety conjugate

```

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = diethylenetriaminepentaacetic acid (DTPA)
        linked to aminocaproic acid (aca)

<400> 71
Xaa Arg Arg Arg Arg Arg Arg Arg
 1           5

<210> 72
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = copper-diethylenetriaminepentaacetic acid
        complex (Cu-DTPA) linked to aminocaproic acid
        (aca)

<400> 72
Xaa Arg Arg Arg Arg Arg Arg Arg
 1           5

<210> 73
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = biotinylated aminocaproic acid (aca)

<221> MOD_RES
<222> (11)...(11)
<223> Xaa = cysteinamide conjugated to hydrocortisone

<400> 73
Xaa Arg Arg Arg Arg Arg Arg Ala Ala Xaa
 1           5           10

<210> 74
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = Arg conjugated to benzyl (Bz) and acetyl
        (Ac) protected C-2' derivative of taxol through
        benzyl-(para-hydroxy benzoate) carbonate

```

<400> 74
 Xaa Arg Arg Arg Arg Arg Arg
 1 5

 <210> 75
 <211> 7
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> delivery enhancing transporter moiety conjugate

 <221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = Arg conjugated to benzyl (Bz) and acetyl
 (Ac) protected C-2' derivative of taxol through
 benzyl-(para-hydroxy benzoate) carbamate

<400> 75
 Xaa Arg Arg Arg Arg Arg Arg
 1 5

 <210> 76
 <211> 6
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> delivery enhancing transporter moiety conjugate

 <221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = fluorescein isothiocyanate (FITC) labeled
 aminocaproic acid (aca)

 <221> MOD_RES
 <222> (6)...(6)
 <223> Xaa = argininamide

<400> 76
 Xaa Arg Arg Arg Arg Xaa
 1 5

 <210> 77
 <211> 7
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> delivery enhancing transporter moiety conjugate

 <221> MOD_RES
 <222> (1)...(1)
 <223> Xaa = fluorescein isothiocyanate (FITC) labeled
 aminocaproic acid (aca)

 <221> MOD_RES
 <222> (7)...(7)
 <223> Xaa = argininamide

<400> 77
Xaa Arg Arg Arg Arg Arg Xaa
1 5

<210> 78
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein isothiocyanate (FITC) labeled
aminocaproic acid (aca)

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = argininamide

<400> 78
Xaa Arg Arg Arg Arg Arg Xaa
1 5

<210> 79
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein isothiocyanate (FITC) labeled
aminocaproic acid (aca)

<221> MOD_RES
<222> (9)...(9)
<223> Xaa = argininamide

<400> 79
Xaa Arg Arg Arg Arg Arg Arg Xaa
1 5

<210> 80
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = fluorescein isothiocyanate (FITC) labeled
aminocaproic acid (aca)


```

<221> MOD_RES
<222> (10)...(10)
<223> Xaa = argininamide

<400> 80
Xaa Arg Arg Arg Arg Arg Arg Arg Xaa
1          5          10

<210> 81
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = 6-maleimidocaproic hydrazone derivative of
      FK506 conjugated to Cys

<400> 81
Arg Arg Arg Arg Arg Arg Arg Xaa
1          5

<210> 82
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (8)...(8)
<223> Xaa = dithioethyl hydrazone derivative of FK506
      conjugated to Cys

<400> 82
Arg Arg Arg Arg Arg Arg Arg Xaa
1          5

<210> 83
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = biotinylated aminocaproic acid (aca)

<221> MOD_RES
<222> (7)...(7)
<223> Xaa = cysteinamide

<400> 83
Xaa Arg Arg Arg Arg Arg Xaa
1          5

```

```

<210> 84
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = biotinylated aminocaproic acid (aca)

<221> MOD_RES
<222> (9)...(9)
<223> Xaa = cysteinamide

<400> 84
Xaa Arg Arg Arg Arg Arg Arg Arg Xaa
1          5

<210> 85
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> delivery enhancing transporter moiety conjugate

<221> MOD_RES
<222> (1)...(1)
<223> Xaa = biotinylated aminocaproic acid (aca)

<221> MOD_RES
<222> (11)...(11)
<223> Xaa = cysteinamide

<400> 85
Xaa Arg Arg Arg Arg Arg Arg Arg Arg Xaa
1          5          10

<210> 86
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial
Sequence:delivery-enhancing transporter polymer of
poly-arginine molecules between 6 and 25 residues
in length

<220>
<221> MOD_RES
<222> (7)..(25)
<223> Arg at positions 7-25 may be present or absent

<400> 86
Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg
1          5          10          15
Arg Arg Arg Arg Arg Arg Arg Arg Arg
20          25

```